[001] WHEEL HUB DRIVE

[002]

[003]

[004] The present invention concerns a wheel hub drive according to the preamble of Claim 1.

[005]

[006] In the prior art, wheel hub drives are usually used in floor trolleys. Since compared with flat or conical gear transmissions, they have the advantage that the transmission, drive motor, brake and wheel take up the least space. In addition, the use of wheel hub drives, enables chassis without through-going axle shafts to be made.

[007] An essential feature of a wheel hub drive is the enveloping circle, i.e., the circle produced around the steering axis when the drive is steered or turned. In wheel hub drives of the prior art, the enveloping circle is determined by the dimensions of the transmission in combination with the motor and brake. This means that the radius of the enveloping circle is relatively large compared with the radius of a circle determined during steering by the turning of the running wheel.

[008] The purpose of the present invention is to indicate a wheel hub drive in which the running wheel is what determines the enveloping circle, so that the smallest possible enveloping circle results.

[009] This objective is achieved by the characteristics of Claim 1. Other design features and advantages emerge from the subordinate claims.

[010]

[011] In the wheel hub drive, it is proposed to integrate a brake whose dimensions are very compact so that the enveloping circle of the wheel hub drive is determined by the running wheel, the transmission, motor and brake being arranged within a circle whose radius is determined by the running wheel.

[012] According to the invention, the stator of the brake consists of a sheet component or sintered component bolted to the housing cover. In addition,

the armature disk is also made from a sheet and connected to the stator with positive locking by way of balls. Moreover, the rotor also consists of a sheet that supports the brake lining and is fixed on the motor shaft by friction force.

[013] The design and very simple structure provides an enveloping circle which is described by the running wheel. This is very advantageous for vehicles with wheel hub drives, since structural space is also made available for the necessary aggregates to be incorporated.

[014]

[015] Below, a preferred example embodiment of the invention is described in more detail and illustrated schematically in the attached drawing.

[016]

[017]

[018] As shown in the figure, the wheel hub drive according to the invention comprises a brake 11, whose stator 1 preferably consists of a sheet or sintered component bolted to the housing cover 12. In this embodiment the stator 1 is connected by positive locking via balls 3 to an armature disk made from sheet. Further, the brake 11 comprises a rotor 4 preferably made from sheet, which supports the brake lining 5 and is fixed on the motor shaft 6 by friction force. If no large braking torques are needed, the wheel hub drive can also be made without a brake lining 5.

[019] The very compact structure shown here enables the transmission 7 and motor 8 (in a plan view of the wheel hub drive according to the figure) to be located within a circle radius which is determined by the running wheel 10, so that the enveloping circle 9 of the wheel hub drive according to the invention is determined by the running wheel 10.

Reference numerals

1 stator
2 armature disk
3 ball
4 rotor
5 brake lining
6 motor shaft
7 transmission
8 motor
9 enveloping circle
10 running wheel
11 brake
12 housing cover